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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/437,469	11/10/1999	ANTONIO DE RENZIS	3572-14	8020

7590 09/08/2004

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EXAMINER	
MERLINO, AMANDA H	
ART UNIT	PAPER NUMBER
2877	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/437,469	DE RENZIS, ANTONIO	
	Examiner	Art Unit	
	Amanda H Merlino	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5-6,8-15,18 and 20-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *18* is/are allowed.

6)☒ Claim(s) *1,2,15 and 20-24* is/are rejected.

7)☒ Claim(s) *5,6 and 8-14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Objections

Claims objected to because of the following informalities:

a) it appears that on line 8 of claim 6, "representantive" should read "representative";

b) on line 10 of claim 6, "J" should be replaced by "j".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2,15, and 20-24 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Cameron et al (5,006,721).

Cameron et al teach of a method for measuring distance of an object in accordance with figure 1 comprising the steps of:

a) emitting a beam of light 14;

b) directing the signal towards an object (12) along a scan line to provide a three dimensional image of the object (12);

c) detecting the diffused light (16) reflected from the surface wherein the detected signal is an analogue electric signal representative of the luminous image diffused by the object (12);

d) carrying out a sampling of an analogue electric signal representative of a distance traveled by the emitted signal and the object diffused signal so as to extract at least ONE sample x_k representative of at least one respective point of the scanning line and converting the sample analogue signal to into a digital signal so as to obtain a numerical value of said at least one sample x_k ;

e) wherein prior to carrying out step a) there is a measuring device calibration step (col 9; lines 40-56) so as to associate at least one calibration sample x_j of a calibration distance signal and a respective numerical value of said at least one sample x_j with a prefixed distance value;

f) identifying the prefixed distance value associated , in the previous calibration step, with the numerical value of at least one sample x_k and corresponding at least one sample x_k obtained in step d)

e) associating the prefixed distance value identified in step f with the numerical value of said at lest one sample x_k, obtained in step d.

With reference to claim 2, Cameron et al teach of a three-dimensional imaging system and thus consequently carries out at least one scan on the object and measures the distances of a plurality of points.

With reference to claim 15, Cameron et al teach of comprising the step of reading calibration targets having a variety of intensity markings (optical code) placed on the object (col 9; line 51-52).

Response to Arguments

Applicant's arguments with reference to claims 1-2, and 15 filed 8/7/2003 have been fully considered but they are not persuasive. Applicant argues that the Cameron reference does not teach the details of the calibration and distance measurement steps of the Applicant's claims." However, examiner respectfully disagrees. Specifically in column 9, lines 43-56, Cameron specifically teaches the step of calibration by correlating prefix distance values with measured comparison signals by taking calibration measurements with a "calibration target" over different distances within the field of view of the scanning apparatus and providing a "look- up" table to provide correlation data between the measuring comparison signals and the distance values. With reference to the sampling, examiner believes that the present claims do not overcome the teachings of Cameron et al. The claims states that at least one sample representative of at least one point of the scanning line are used to obtain a numerical value of said at least one sample. Cameron et al teach of using one point (at least one sample) of a scanning line for calibration and measurement purposes. The claims call for at least one sample and Cameron clearly teaches the measurement of one sample.

Allowable Subject Matter

Claim 5-6 and 8-14 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 18 allowed.

The following is an examiner's statement of reasons for allowance:

As to claims 5, the prior art of record, taken alone or in combination, fails to disclose or render obvious a method for measuring distance comprising the step of storing the distance value obtaining for sample x, in step g) and iteratively repeating the previous steps starting from step d) fore each further sample x_{k+1}, wherein k=1,..,N, in combination with the rest of the limitations of claim 1.

As to claims 6-14, the prior art of record, taken alone or in combination, fails to disclose or render obvious a method for measuring distance comprising the steps of carrying out a sampling of a calibration analogue signal representative of the distance traveled by the emitted signal and the surface diffused signal, at a prefixed sampling frequency, so as to extract a plurality of calibration samples xj, wherein j-1,....N, representative of corresponding points on the scanning line in combination with the rest of the limitations of claim 1.

As to claims 18, the prior of record, taken alone or in combination, fails to disclose or render obvious a method for measuring distance comprising a calibration step wherein a prefixed distance is associated with a prefixed comparison signal by scanning light along the sample and then filling with the distance values associated to the numerical values obtained for the samples x_j, the items of a calibration matrix having, as index of column j a number from zero to the number of samples xj extracted, and as index of row I, a number from zero to the maximum value of the numerical value obtained after the analog to digital conversion of the comparison signal, the method further comprising the step of filling the empty items (i, j) of the matrix comprises the step of identifying column by column, the empty items (I, j) of the matrix and filling each

of these empty items with a value obtained by linearly interpolating between the two numerical values differing from 0 that are nearer to the empty item, and belonging to the same column ...., in combination with the rest of the limitations of claims 11 and 18 respectively.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda H Merlino whose telephone number is 571-272-2421. The examiner can normally be reached on Monday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J Toatley, Jr. can be reached on 571-272-2800 ext 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Amanda H Merlino
Patent Examiner
Art Unit 2877
September 2, 2004

Gregory J. Toatley, Jr.
Supervisory Patent Examiner

Organization TC2800 Bldg./Room Jeff

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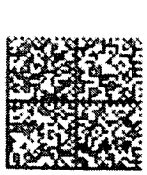

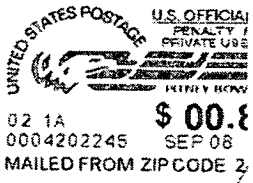

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